L8 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:958444 CAPLUS
DN 138:18708
ED Entered STN: 18 Dec 2002
TI Manufacture of porous polyimide films for printed circuit boards
IN Tahara, Shinji; Kawashima, Toshiyuki; Ikeda, Kenichi
PA Nitto Denko Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B29C041-24
ICS H05K001-03; H05K003-28; B29K079-00; B29K105-04; B29L007-00
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002361661	A2	20021218	JP 2001-169254	20010605 <--
PRAI JP 2001-169254		20010605		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002361661	ICM	B29C041-24
	ICS	H05K001-03; H05K003-28; B29K079-00; B29K105-04; B29L007-00

AB Porous polyimide film is manufactured by wet solidification of solution containing polyamic acid of weight average mol. weight (determined by gel permeation chromatog.) ≥8000 for preparation of a porous film, washing the film with water, and imidation of the film before the weight average mol. weight of the polyamic acid becomes <8000. Porous polyimide films showing dielec. loss tangent (tan δ) of ≤0.0045 at 10 GHz are also claimed. The films are especially suitable as insulating layers in printed circuit boards used for high-frequency devices.
ST porous polyimide film insulator PWB; printed circuit board porous polyimide film; dielec polyimide film imidation polyamic acid
IT Porous materials
(films; manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
IT Printed circuit boards
(manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
IT Polyimides, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
IT Polyamic acids
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
IT Dielectric films
Films
(porous; manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
IT 26873-91-6P, 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether-p-phenylenediamine copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of porous dielec. polyimide films for printed circuit boards by imidation of polyamic acid coatings)
RN 26873-91-6P

L8 ANSWER 2 OF 3 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2003-433200 [41] WPIX
DNN N2003-345693 DNC C2003-114851
TI Porous membrane manufacturing method for wiring board, involves starting imide processing of porous membrane, when average molecular weight of polyamic acid is in specific range.
DC A26 A32 A85 L03 V04
PA (NITL) NITTO DENKO CORP
CYC 1
PI JP 2002361661 A 20021218 (200341)* 6 B29C041-24 <--
ADT JP 2002361661 A JP 2001-169254 20010605
PRAI JP 2001-169254 20010605
IC ICM B29C041-24
ICS H05K001-03; H05K003-28
ICI B29K079:00, B29K105:04, B29L007:00
AB JP2002361661 A UPAB: 20030630
NOVELTY - The imide processing of the porous membrane is started, when the average molecular weight of the polyamic acid is more than 8000 by GPC measurement.
USE - For manufacturing porous membrane for wiring board for information communication apparatus.
ADVANTAGE - Porous membrane with improved mechanical strength is obtained, by starting the imide processing, when the average molecular weight of polyamic acid is in specific range.
Dwg.0/0
FS CPI EPI
FA AB
MC CPI: A05-J01B; A12-E07; L03-H04E1
EPI: V04-R03E; V04-R07P

L8 ANSWER 3 OF 3 JAPIO (C) 2005 JPO on STN
AN 2002-361661 JAPIO
TI METHOD FOR MANUFACTURING POROUS FILM FOR WIRING SUBSTRATE
IN TAWARA SHINJI; KAWASHIMA TOSHIYUKI; IKEDA KENICHI
PA NITTO DENKO CORP
PI **JP 2002361661** A 20021218 Heisei
AI JP 2001-169254 (JP2001169254 Heisei) 20010605
PRAI JP 2001-169254 20010605
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002
IC ICM B29C041-24
ICS H05K001-03; H05K003-28
ICI B29K079:00, B29K105:04, B29L007:00
AB PROBLEM TO BE SOLVED: To provide a method for manufacturing a porous film for a wiring substrate capable of reducing a dielectric dissipation factor as compared with a polyimide porous film obtained by a conventional wet coagulation method and capable of also enhancing mechanical strength, and the porous film for the wiring substrate obtained thereby.
SOLUTION: In the method for manufacturing the porous film for the wiring substrate including a film forming process for forming the porous film by the wet coagulation method using a solution containing polyamic acid, a washing process for washing the obtained porous film with water and an imidation process for imidating the obtained porous film, the polyamic acid to be used has a weight average mol.weight die to GPC measurement of 8,000 or more and the imidation process is started before the weight average mol.weight of the polyamic acid due to GPC measurement is lowered to <8,000.